Storm Restoration

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September 2016
Overview

• Storms
  • How we prepare
  • How we react
  • How we restore

• Restoration Activities

• Restoration Resources

• Recent storm restorations
What causes storm related outages?

High wind gusts or sustained winds
- Trees and limbs blowing into or falling onto Ameren overhead lines
- Blowing debris
- Tornadoes

Ice and snow
- Heavy ice or snow accumulating on power lines causing overload from weight
- Trees becoming heavy with ice and snow and falling into overhead power lines
How we prepare

• Continuous storm training
• Quantum Weather
• Weather Monitoring
• Pre-event notifications and stand-by
How we react

• Activate the Emergency Operations Center (EOC)
• Call co-workers to respond
• Assess number and types of outages
• Identify system damage
• Identify hardest hit areas
Emergency Operations Center (EOC)

- Centralized command structure
- Optimize resource coordination
- Coordinate assistance from other utilities
- Interface with Public Service Commission, media outlets and communities
Mutual Assistance

- Member of the EEI Midwest Utility Mutual Assistance group
- Work with over 35 other utility companies with 4800 associated line resources
- Pre-arranged agreements to speed movement of mutual assistance aid to restoration efforts
- Distribute mutual assistance resources throughout restoration area.
What does it take to get customers restored?

- Perform damage assessment
- Perform switching to restore some customers quickly
- Complete work that will have the biggest impact on the most customers first (circuit outages)
- Repair smaller, more isolated outages
- Repair single outages
- Non-outage related work (wires down, but lights still on etc.)
Communicating with customers

- **Press conferences with frequent customer updates**
- **Interactive outage map**
- **Customer interaction using social media**
- **Receive Outage Alerts**
  Keep updated on your outage status with an alert.
  (more)
- **Various customer options to receive information**
- **24 Hour Customer Care**
- **Working with communities and critical customers**
Logistics

• Work with area hotels to accommodate employees and outside resources working away from home
• Work with local business to assemble staging sites in large parking lots
• Provide overnight truck fueling and truck parking
Logistics

• Meals:

• Feed employees at their location or near damage to reduce delays in restoration and help co-workers stay engaged throughout restoration:

  • Breakfasts in hotels and work headquarters
  
  • Boxed lunches delivered to job sites and provided to employees prior to beginning the days work
  
  • Dinner in hotels and works headquarters
Objectives

• Safety of our co-workers, contractors and the public

• Communications

• Most effective effort
  • Restore as many customers as quickly as possible
  • Most cost effective use of our resources
  • Keep restoration resources engaged by providing materials and logistics on site
Recent Storms – July 13th

• 40 mph sustained winds for up to 3 minutes at a time with gusts of up to 57 mph

• Customer outages peaked at 116,118.

• Restoration completed with no safety incidents

• 78 hours until last customer restored

• Approximately 100 poles damaged and repaired

• 168,420 feet of wire (32 miles) replaced

• Approximately 200 cross arms broken and replaced
Recent Storms – July 13th

- 855 linemen, including 326 from outside utilities
- Resources brought in from mutual assistance partners from Missouri Co-Ops, Wisconsin, Michigan, Indiana and Kansas City Power & Light
- 1800 employees engaged
- 5 separate staging sites at local business parking lots
- 14,571 meals provided to improve resource efficiency
- 2,300 beds
- 20,827 gallons of fuel delivered to trucks overnight for efficiency
Questions?